

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
Alexandria Division**

Stephen Thaler,

Plaintiff,

v.

Andrew Hirshfeld, in his official capacity  
Performing the Functions and Duties of Under  
Secretary of Commerce for Intellectual Property  
and Deputy Director of the United States Patent and  
Trademark Office, and United States Patent and  
Trademark Office,

Defendants.

Case No. 1:20-cv-00903

**MEMORANDUM OF LAW IN SUPPORT OF  
PLAINTIFF'S OPPOSITION TO  
DEFENDANTS' MOTION FOR SUMMARY  
JUDGMENT & REPLY TO DEFENDANTS'  
OPPOSITION TO PLAINTIFF'S MOTION  
FOR SUMMARY JUDGMENT**

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## I. INTRODUCTION

Defendants' motion for summary judgment and opposition to Plaintiff's motion for summary judgment mischaracterizes the central legal issue in this case, proposes a myopic approach to statutory interpretation that ignores contradictory authorities, and ultimately, fails to confront that their interpretation is inconsistent with Congressional intent.

The primary legal issue in this case is whether a patent can be obtained for an invention made without a traditional human inventor ("AI-Generated Inventions"). Defendants ask the court to endorse an interpretation of the Patents Act that would, for the first time, exclude an entire category of innovation from patent law protection. A category that, in the future, may come to represent the majority of American innovation. Yet Defendants failed to engage with the outcome of their interpretation in the underlying agency action—and they continue not to engage.

Defendants claim that the Patent Act requires a natural person to be listed as an inventor in order for an applicant to obtain patent rights, but they do so based on the theory that language can only be given its narrowest and most literal meaning regardless of the consequences. Defendants do not address instances in which essentially the same language, in the very same legislation, is used to refer to non-natural persons. Defendants ignore authority in the very cases they cite holding that the term "individual" does not need to exclusively refer to a natural person. Defendants rely on cases about whether corporations or sovereigns can be inventors, but fail to acknowledge the tremendous difference between a company, which is composed of human agents that it acts through, and an AI, which can generate patentable output without a traditional human inventor.

What Defendants characterize as attempts at policy making is merely an interpretation of statutory language that is consistent with Congressional intent. Defendants wrongly claim that Plaintiff needs to provide explicit evidence that Congress intended to protect AI-Generated Inventions. What Plaintiff has successfully shown, and what Defendants do not challenge and cannot reasonably challenge, is that Congress, the Founders, and the Supreme Court have all been clear about the purposes of the patent system—to incentivize innovation, to promote the disclosure of information that would otherwise be protected as a trade secret, and so forth. In every respect, allowing protection for AI-Generated Inventions would be consistent with this intent, while denying protection would do the opposite. Because there is no evidence that Congress legislated mindful of the existence of inventions without human inventors, the Patent Act should now be interpreted to further Congress' intent to promote innovation in light of technological advances.

## **II. REPLY TO DEFENDANTS' STATEMENT OF FACTS**

Plaintiff understands Defendants are not disputing his statement of undisputed material facts in his opening memorandum (ECF 24, at 11 [“USPTO does not dispute any of the actual facts articulated in plaintiff’s material fact statement...”]). In response to additional facts mentioned by Defendants, Plaintiff will provide a few clarifying comments and does dispute certain facts.<sup>1</sup>

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<sup>1</sup> In addition to Defendants, Mitchell Apper, appearing pro se, has filed various papers in this matter, including, “Amicus Curiae memorandum opposing motion for summary judgment.” (Dkt. No. 27). While Plaintiff appreciates his interest in the case, the submission is irrelevant, as it primarily attempts to dispute factual allegations which are not disputed by Defendants and which must be accepted as true for the court’s review under the APA. The brief is also inaccurate, among other things, both with respect to the state of the science related to AI, and the manner in which machines can be used to generate inventive output in the absence of someone who qualifies as an inventor under traditional criteria. For these reasons, even if the Court finds the submissions admissible as a procedural matter, the amicus brief should not be given any

### A. Clarifying comments

Plaintiff is not aware of any previously filed applications for AI-Generated Inventions, and Defendants provided no guidance with respect to filing such applications. Given the unique nature of the applications, and to ensure that there was no confusion about the grounds on which the application was being filed, a statement of inventorship was filed to clarify that the Applications<sup>2</sup> lacked a traditional human inventor and that they were instead generated by an AI. (ECF 15-2 at pp. 26-27 [A26-A27]; ECF 15-3 at pp. 59-59 [A311-A312]).

Plaintiff, as the “applicant” for the Applications, is responsible for prosecuting the Applications and he asserts ownership in the Applications and to any ultimately issued patents. Because he is not the inventor, he filed the assignment document referred to by Defendants (ECF 24, at 7-8) because applications filed in these circumstances generally require such a document to be filed together with a statement under 37 CFR 3.73(c) (form AIA/96). (ECF 15-2 at pp. 71-72 [A71-72]; ECF 15-3 at pp. 107-108 [A360-361]).

Plaintiff’s position, nevertheless, is that the assignment should be unnecessary because the rights to the underlying inventions should vest directly with Plaintiff. The right to a piece of fruit does not first vest in a tree and then transfer to a farmer. There is no more reason for the right to an invention to first vest in a machine and then to transfer to the machine’s owner. Plaintiff, as the owner of DABUS (as well as its developer and user), is entitled to own its output as a trade secret under, among others, the doctrines of accession and first possession, and is similarly entitled to own patents filed on those trade secrets.

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weight. It will not assist the Court because it is irrelevant, and the assertions made therein are inaccurate and not adequately supported.

<sup>2</sup> U.S. Application Serial Numbers 16/524,350 and 16/524,532 (collectively, “the Applications”).

## B. Disputed facts

Plaintiff denies that he recognized that, “both the European Union and the United Kingdom had concluded that their patent law precluded the naming of an inventor that is not a natural person” (ECF 24, at 9)). Plaintiff also objects to Defendants stating that, “United Kingdom’s High Court of Justice has since affirmed the United Kingdom Intellectual Property Office’s conclusion that only a ‘natural person’ can be an ‘inventor’ under the United Kingdom’s ‘Patents Act 1977.’” (ECF 24, at 9).

It is correct that analogs to the Applications were filed in numerous foreign jurisdictions, and that these applications have been initially effectively rejected by the European Patent Office (“EPO”) and the United Kingdom Intellectual Property Office (“UKIPO”). However, aside from the fact that the EPO is independent from the European Union,<sup>3</sup> it is critical to note that *all such rejections are currently under appeal*. It is Plaintiff’s contention that protection for AI-Generated Inventions should be permitted under the laws of at least some foreign jurisdictions. There is thus a risk that the subject matter of the Applications may only be protected in, for example, Germany, and not in the United States. In any event, whether AI-Generated Inventions are permitted under various national or regional laws and regulations is, much like the present case, still being decided.

While the High Court upheld UKIPO’s rejection, it noted, “I would wish to make clear that I in no way regard the argument that the owner/controller of an artificially intelligent machine is the ‘actual devisor [inventor] of the invention’ as an improper one. Whether the

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<sup>3</sup> <https://www.epo.org/law-practice/legal-texts/official-journal/information-epo/archive/20200129.html> (“The European Patent Organisation is an international organisation established on the basis of the European Patent Convention (EPC). It is independent of the EU and currently has 38 member states, of which 28 are also members of the EU (incl. the UK) and 10 are not.”) The UK, of course, has now withdrawn from the EU, but not the EPC.

argument succeeds or not is a different question and not one for this appeal: but it would be wrong to regard this judgment as discouraging an applicant from at least advancing the contention, if so advised.” ([2020] EWHC 2412 (Pat), at 52(B)).<sup>4</sup> This statement, suggesting that an AI-Generated Invention could be protected by naming the machine’s owner as the inventor on the basis of machine ownership rather than human inventive activity, would be non-binding dictum under U.S. law. The argument that Plaintiff could be an inventor under the law of England and Wales simply by virtue of ownership of DABUS was not advanced by Plaintiff at the High Court. (*Id.*)

An appeal from the High Court has been accepted on a discretionary basis and is currently pending before the UK Court of Appeal.<sup>5</sup> Ultimately, whether patents are granted for the applications in the United Kingdom is dependent on the language of The Patents Act 1977, and principles of statutory interpretation in the United Kingdom which differ from those of the United States. However, both the UKIPO and the High Court acknowledged the negative consequences of failing to allow protection for AI-Generated Inventions. (See, *Ex parte Stephen L. Thaler*, No. BL O/741/19 (U.K. I.P.O. Dec. 4, 2019) and [2020] EWHC 2412 (Pat)).

Moreover, language related to inventorship varies by jurisdiction. Israeli Patent Law, for example, has no requirement to list an inventor in a patent application, and states that, “anyone who filed a patent application is considered as the owner of the invention, as long as the contrary has not been proven.” (State of Israel, Patents Law 5727–1964 as consolidated 2014, § 76).<sup>6</sup>

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<sup>4</sup> <https://www.bailii.org/ew/cases/EWHC/Patents/2020/2412.html>.

<sup>5</sup> A3/2020/1851/PTA. *Thaler –v– Comptroller-General of Patents, Design and Trade Marks*. Court of Appeal.

<sup>6</sup> [https://www.jpo.go.jp/e/system/laws/gaikoku/document/index/israel-e\\_tokkyo.pdf](https://www.jpo.go.jp/e/system/laws/gaikoku/document/index/israel-e_tokkyo.pdf).

The EPO rejections are pending before the EPO Boards of Appeal,<sup>7</sup> and the President of the EPO has recently been granted leave to intervene in the case (similar to filing an amicus brief in the U.S.). (Request to comment by the President of the European Patent Office).<sup>8</sup> In his words, the applications and subsequent appeal, “constitute important precedential cases, and the decisions of the Legal Board of Appeal will provide clarification on the definition of inventorship in relation to AI systems.” (*Id.*)

In accepting the President’s request, the Board of Appeal wrote that the first issue before them in the appeal was, “... to determine the purpose and function of the requirement to designate the inventor in a published European patent application. One possible view on this point is that the sole purpose of the requirement is to enhance the protection of the inventor’s right to be mentioned as such. On this basis, where an application does not envisage a person with legal personality as inventor, it could be argued that the requirement to designate the inventor is redundant. This view would be justified if human intervention did not constitute an inherent element of a patentable invention under Article 52 EPC [European Patent Convention]. If, by contrast, the term ‘invention’ in Article 52 EPC was considered to be limited to human-made inventions, then the function of Rule 19 EPC would also be to allow or facilitate examination of a substantive requirement.” (F3305 Communication of the Board of Appeal (ex parte/inter partes)).<sup>9</sup>

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<sup>7</sup> Appeal number J0008/20-3.1.01.

<sup>8</sup> <https://register.epo.org/application?number=EP18275163&lng=en&tab=doclist> (listed in the docket as “General enquiry” dated September 9, 2020).

<sup>9</sup> <https://register.epo.org/application?number=EP18275163&lng=en&tab=doclist> (listed in the docket as “F3305 Communication of the Board of Appeal (ex parte/ inter partes)” dated February 1, 2021). The other issues in the appeal are more relevant to the EPO than to Defendants, and concern EPO’s remit to consider inventorship as a substantive matter as well as other formalities issues. *Id.*

Whether EPO will ultimately approve the applications is unknown at this stage, and in any event dependent on the language of the European Patent Convention rather than any U.S. law. Contrary to Defendants' statement of material facts, whether a patent can be issued for an invention without a traditional human inventor is both jurisdiction dependent and very much a current subject of international debate.

As a final reply to Defendants' comments on the foreign applications, it should be noted that on October 20<sup>th</sup>, 2020, the European Parliament (the European Union's law-making body) adopted a resolution in favor of patentability of AI-Generated Inventions. European Parliament resolution of 20 October 2020 on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI)) at paragraphs 14 and 15 ("[*The European Parliament*]... Points out the difference between AI-assisted human creations and AI-generated creations, with the latter creating new regulatory challenges for IPR [Intellectual Property Rights] protection, such as questions of ownership, inventorship and appropriate remuneration, as well as issues related to potential market concentration; further considers that IPRs for the development of AI technologies should be distinguished from IPRs potentially granted for creations generated by AI; stresses that where AI is used only as a tool to assist an author in the process of creation, the current IP framework remains applicable; **Takes the view that technical creations generated by AI technology must be protected under the IPR legal framework in order to encourage investment in this form of creation and improve legal certainty** for citizens, businesses and, since they are among the main users of AI technologies for the time being, inventors[.]") (emphasis added).<sup>10</sup>

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<sup>10</sup> [https://www.europarl.europa.eu/doceo/document/TA-9-2020-0277\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/TA-9-2020-0277_EN.pdf)

### III. ARGUMENT

#### A. Grounds for appeal

Defendants misstate Plaintiff's position in alleging that, “[a]s plaintiff ostensibly concedes... this Court may ‘set aside’ an agency action only if it is ‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,’” (emphasis added and internal citations omitted, ECF 24, at 11). Rather, under the Administrative Procedure Act (“APA”), the Court shall, among other reasons, “hold unlawful and set aside agency action, findings, and conclusions found to be—(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; (B) contrary to constitutional right, power, privilege, or immunity; [or] (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right . . .” 5 U.S.C. § 706(2). Defendants' decision to deny Plaintiff's request for reconsideration, runs afoul of subdivisions A, B, and C.

The Constitution's “Patent Clause” provides an explicit rationale to the patent system that would be frustrated under Defendants' proposed interpretation. U.S. Const. Art. I, § 8, cl. 8. Defendants cite to Powers v. USPTO, 2005 WL 2456979, at \*2 (E.D. Va. Oct. 5, 2005) (citing Bonito Boats v. Thunder Craft Boats, Inc., 489 U.S. 141, 146 (1989)), for the proposition that the Patent Clause only provides Congress with authority to legislate, it does not mandate that Congress actually promulgate legislation. Powers involved an individual acting pro se and suing USPTO for \$750 million for making allegedly unauthorized changes to his patent application before publication, and also seeking an agency retraction of an official publication to remedy an alleged defamation. While the Eastern District in Powers stated that the Patent Clause did not confer a private right of action, that is not the holding of Bonito Boats, which held that a Florida statute was preempted by the supremacy clause. (*Id.*) Bonito Boats does not resolve whether the

Patent Clause provides a private right of action. Bonito Boats involved a case, unlike the present action, in which, “Congress has explicitly considered the need for additional protections for industrial designs and declined to act.” (*Id.*, at 143).

**B. Defendants are not entitled to Skidmore Deference**

As discussed in Plaintiff’s opening memorandum, Defendants are not entitled to Skidmore deference. Defendants’ reasoning essentially boils down to asserting that an inventor has to be a person because an inventor has always been a person, and that there is no way to interpret a statute other than as narrowly and literally as possible. Defendants do not, and did not in the underlying agency action, consider alternative interpretations or statutory constructions or the constitutional imperative in rejecting the Applications. Defendants do not provide any evidence that Congress intended to exclude AI-Generated Inventions from patentability. Most problematically, Defendants do not engage with the effects of their interpretation. Under Defendants’ reasoning, even if the entire patent system ceased to function as a result, the Court could not so much as consider an alternative interpretation of a statute if it arguably has a plain meaning.

Therefore, in addition to Defendants’ underlying action constituting an unreasonable conclusion as to the proper construction of the Patent Act, and thus lacking the power to persuade, Defendants have not conducted a careful analysis of the issue. That remains clear today, as Defendants continue to incorrectly argue the underlying legal question in this case is only whether an AI can be named as an inventor on an application, rather than confronting the fact that their interpretation would exclude AI-Generated Inventions from patent protection entirely.

**C. As a matter of statutory interpretation, an “individual” need not be a natural person**

Plaintiff’s opening memorandum already explains why a purposive interpretation of the Patent Act is both desirable and necessary in the context of this case.

Defendants cite to authority that holds terms such as “individual” in statutes may refer only to a natural person. See, Mohamad v. Palestinian Auth., 566 U.S. 449, 453-61 (2012). Mohamad held that, “[a]s used in the [Torture Victim Protection Act of 1991, “TVPA”], the term ‘individual’ encompasses only natural persons. Consequently, the Act does not impose liability against organizations.” (*Id.*, at 449).

The term individual may indeed refer solely to a natural person, but as the Mohamad Court itself noted, “[t]his is not to say that the word ‘individual’ invariably means ‘natural person’ when used in a statute.” (*Id.*, at 455). Justice Breyer, in concurrence, even went so far as to state, “[t]he word ‘individual’ is open to multiple interpretations, permitting it, linguistically speaking, to include natural persons, corporations, and other entities.” (*Id.* at 462 (2012), Breyer, J.).

Mohamad involved legislation with respect to victims of torture or extrajudicial killings, who could only be natural persons. The Court held that Congress appeared to be making deliberate distinctions between persons and nonsovereign organizations. (*Id.* at 450). The Court also found that TVPA’s legislative “history supports this Court’s interpretation,” (*id.* at 449-450) and that, in reply to a purposive argument, “Congress appeared well aware of the limited nature of the cause of action it established in the TVPA.” (*Id.*). In sum, the Court held that, “[t]he ordinary meaning of the word, fortified by its statutory context, persuades us that the Act authorizes suit against natural persons alone.” (*Id.*, at 453) (emphasis added). This is all

dissimilar from the present action, where prohibiting patents for AI-Generated Inventions would conflict with Congressional intent.

Defendants also cite to Animal Legal Defense Fund v. Dep’t of Agriculture, 933 F.3d 1088 (9th Cir. 2019) which involved whether an individual could be a living animal other than a natural person. Aside from this case not being binding on the Court, it once more involves a very different issue and context. “The Freedom of Information Act (‘FOIA’) provides for expediting processing of records where ‘failure to obtain requested records on an expedited basis … could reasonably be expected to pose an imminent threat to the life or physical safety of an individual.’ We are asked to decide whether the term ‘individual’ in this context includes an animal as well as a human being. We conclude it does not.” *Id.*, at 1090 (emphasis added and internal citation omitted).

Plaintiff’s opening memorandum previously addressed the Federal Circuit cases relied upon by Defendants. They are distinguished on the basis that they address inventorship as between natural persons and artificial persons that constitute legal entities. These legal entities literally act via human agents and are thus unlike AI acting autonomously.

#### **D. A narrow and literal statutory interpretation would be inappropriate in this context**

It is inaccurate to state that Plaintiff does not, “even suggest that construing the term ‘individual’ to mean ‘human being’ … would somehow lead to ‘absurd result[s],’ and thus should be disregarded.” (ECF 24, at 16). As Plaintiff has already alleged in both his Complaint and opening memorandum, Defendants’ agency action is contrary to the spirit, purpose, and intent of Congress and the Founders, and it will result in negative, and indeed, absurd and disastrous outcomes.

Curiously, Defendants both claim that Plaintiff has failed to allege that sufficiently negative outcomes will result from their interpretation, then proceed to criticize Plaintiff for arguing, in the “zenith of hyperbole”, that, “[t]he future of innovation is at stake in this case”. (ECF 24, at 18–19).

At the same time, Defendants make no arguments that the future of innovation is not at stake in this case. In fact, Defendants’ opening and opposing memorandum (ECF 24) does not discuss the implications of their interpretation. There is good reason for this – the implications are both disastrous and absurd. Defendants’ interpretation will discourage the use and development of inventive AI that has the potential to make tremendous social contributions. The Defendants never discuss or appear to have even thought about the effects of their interpretation or the effects it will have on innovation.

Defendants provide no evidence that Congress intended to prohibit patents on AI-Generated Inventions. That is because such evidence does not exist to Plaintiff’s knowledge. Defendants argue that Plaintiff should have the burden of affirmatively providing evidence that Congress intended to allow patents on AI-Generated Inventions. (See Generally, ECF 24, at 11-21.) This misunderstands that Congress did not anticipate or legislate for this specific circumstance, either at the time the Patent Act was enacted, or during subsequent amendments. The Patent Act has indeed been amended since 1952. That does not change the fact that Defendants have provided no evidence whatsoever that Congress intended to exclude AI-Generated Inventions from patentability.

What Congress did intend, and what the Founders did intend, was to create a system of patent law that would result in certain social benefits. Principally, to incentivize innovation and promote the disclosure of information that would otherwise be maintained as a trade secret.

Allowing protection for AI-Generated Inventions would accomplish both of these goals while prohibiting such protection would do the opposite.

#### **IV. CONCLUSION**

Defendants' claim that: "Congress's 'preferred policy' here – whether right or wrong – is that an 'inventor' under the Patent Act must be a 'natural person['] (i.e., a 'human being')."

(ECF 24, at 21). The problem with this argument is that, while Defendants argue their interpretation is the most literal way to read the Patent Act, they never stop to consider whether it is actually Congress' preferred policy. It is not policy making to consider Congressional intent in statutory interpretation.

The interpretation advanced by Defendants should not be adopted because it conflicts with Congressional intent. It will hinder innovation, it runs afoul of the Constitutional rationale for patent protection, and it is at odds with the Patent Act. In light of the consequences that would follow from Defendants' interpretation, the Court should enter summary judgment for Plaintiff, and deny the identical relief sought by Defendant.

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Dated: March 10, 2021

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